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EXAMINER
TORRES, JUAN A

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/044,207	MONI ET AL.
	Examiner	Art Unit	
	Juan A. Torres	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*10 July 2006*</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-61* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last

Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

<u>Regarding Rejections under 35 USC 112 first paragraph:</u>

Applicant's arguments filed on 07/10/2006 have been fully considered and they

are persuasive.

Applicant's arguments, see Amendment After Final, filed 07/10/2006, with

respect to Rejections under 35 USC § 112 first paragraph have been fully considered

and are persuasive. The rejections of claims 1-60 have been withdrawn.

<u>Regarding Rejections under 35 USC § 102 and § 103:</u>

Applicant's arguments with respect to claims1, 19, 33, 39, 52 and 58 have been

considered but are moot in view of the new ground(s) of rejection.

Examiner NOTE

Even thought the rejection set forth in this Office action is new, the Examiner

would like to clarify his interpretation of the Panusopone et al. (US 6647061) patent that,

form the Examiner point of view, seems not to be correctly interpreted.

Panusopone clearly teaches: "In one embodiment, a low complexity front-to-back

transcoder (<u>with B frames disabled</u>) avoids the need for motion compensation

processing. In another embodiment, a transcoder architecture that minimizes drift error

(<u>with B frames enabled</u>) is provided. In another embodiment, a size transcoder (<u>with B</u>

frames enabled) is provided, e.g., to convert a bitstream of ITU-R 601 interlaced video

coding with MPEG-2 MP@ML into a simple profile MPEG-4 bitstream which contains

SIF progressive video suitable for a streaming video application. For spatial

downscaling of field-mode DCT blocks, vertical and horizontal downscaling techniques

are combined to use sparse matrixes to reduce computations" (abstract) (emphasis

added). So he is disclosing at least 3 embodiments:

a) First embodiment "a low complexity front-to-back transcoder (with B frames

disabled) avoids the need for motion compensation processing" (emphasis added). The

recitation "with B frames disabled" means that the user cannot drop the B frames, that is

obvious because is a front-to-back transcoder. This embodiment is in figure 3.

b) Second embodiment "a transcoder architecture that minimizes drift error (with

B frames enabled) is provided". This embodiment is disclosed in figure 4. The recitation

"with B frames enabled" means that the user can drop the B frames, "Moreover, the

transcoder 400 can be used to transcode bitstreams with B-frames since MPEG-4 does

not allow intra mode for B-frames. The transcoder 400 treats a block in intra mode in a

B-frame (in MPEG-2) as a block with a zero MV in inter mode (in MPEG-4). It can be

either a zero residual MV (PMV) or zero MV (which may yield a non-zero MV code)

since the MV is predictive coded against the PMV" (emphasis added).

c) Third embodiment, this embodiment is the one that clearly indicates me

meaning of enablement, "a size transcoder (with B frames enabled) is provided, e.g., to

convert a bitstream of ITU-R 601 interlaced video coding with MPEG-2 MP@ML into a

simple profile MPEG-4 bitstream which contains SIF progressive video suitable for a

streaming video application. For spatial downscaling of field-mode DCT blocks, vertical

and horizontal downscaling techniques are combined to use sparse matrixes to reduce

computations". This embodiment is disclosed in figure 5. The recitation "with B frames

enabled" means that the user <u>can</u> drop the B frames.

In this embodiment B frames are dropped, the reason for doing that is "If

temporal resolution reduction is used, i.e., frame rate reduction, a simple method for

reducing the frame rate is to drop <u>some</u> of the bidirectional predicted frames, the so-

called B-frames, from the coded sequence. This changes the frame rate of the incoming

video sequence. Which frames and how many frames to be dropped is determined in

the transcoder. This decision depends upon a negotiation with the client and the target

bit rate, i.e., the bit rate of the outgoing bitstream. The B-frames are coded using motion

compensated prediction from past and/or future I-frames or P-frames. I-frames are

compressed using intra frame coding, whereas P-frames are coded using motion

compensated prediction from past I-frames or P-frames. Since B-frames are not used in

the prediction of other B-frames or P-frames, a dropping of some of them will not affect

the quality of the future frames. The motion vectors corresponding to the skipped B-

frames will also be skipped" (emphasis added) (Christopoulos (US 20010047517 A1)

paragraph [0052]).

B- frame enable in this embodiment means that to drop the b frames is an option,

it is possible to do it (in a back-to-back configuration that will not be an option), and

Panusopone drops the b frames because "Skipping of B-frames before performing

downscaling reduces complexity" (column 18 lines 61-62).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 61 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification doesn't disclose that "the selected factor reduces a width of the images to be a factor of sixteen, and reduces a height of the images to a factor of thirty-two".

This is a new matter rejection, because the originally filed specification and claims didn't discloses that the selected factor reduces a width of the images to be a factor of sixteen, and reduces a height of the images to a factor of thirty-two. What the specification discloses in that "it is useful to ensure that the height and width of the images in the output video stream are multiples of 32 and 16 respectively" (emphasis added) (paragraph [0041]).

Claim 61 is also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a video transcoding asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention. Claim 61 claims that reducing the width of the images to be a factor of sixteen, and reduces a height of the images to a factor of

thirty-two, this means that a MEPG-2 720x480 will be reduced to a 22.5x30 (emphasis added), one skilled in the art clearly would not know how to use the claimed invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 61 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 61 claims that reducing the width of the images to be a factor of sixteen, and reduces a height of the images to a factor of thirty-two, this means that a MEPG-2 720x480 will be reduced to a 22.5x30 (emphasis added), and it is not understood how this can be accomplish

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 39-57 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 39, claim 39 claims a computer program product and such a claim is non-statutory because the terminology "computer program product" alone has no set definition.

As per claims 40-51, they are rejected because they depend directly or indirectly from claims 39, and claim 39 is rejected.

As per claim 52, claim 52 claims a computer program product and such a claim is non-statutory because the terminology "computer program product" alone has no set definition.

As per claims 53-57, they are rejected because they depend directly or indirectly from claims 52, and claim 52 is rejected.

Claim 61 is rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a video transcoding asserted utility or a well-established utility. Claim 61 claims that reducing the width of the images to be a factor of sixteen, and reduces a height of the images to a factor of thirty-two, this means that a MEPG-2 720x480 will be reduced to a 22.5x30 (emphasis added), one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-11, 13-28, 30-35, 37-47, 49-54, 56-59 and 60-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panusopone et al. (US Patent 6647061) in view of Cheney (US 6519283 B1) (using Christopoulos (US 20010047517 A1) paragraph [0052] for the motivation).

As per claims 1, 19 and 58, Panusopone discloses a system, method, transcoder, and program for transcoding an incoming video stream to reduce the bit rate

of the video stream comprising decoding the incoming video stream that includes at

least one B frame, where parameters of the incoming stream are extracted from it and

used in generating a new video stream (abstract, column 15 line 65 to column 18 line 34

and figure 5 column 18 lines 35 to 62), spatially reducing a size of images of the

incoming video stream horizontally and vertically by a selected factor (abstract, column

15 line 65 to column 18 line 34 and figure 5 column 18 lines 35 to 62; page 19 line 65 to

page 20 line 3 for horizontal and vertical reduction and also figure 6 where a reduction

NxN to NxN/2 is disclosed, blocks 600 and 610 column 3 lines 56-65), generating a new

video stream that includes spatially reduced images using one or more of the

parameters extracted from the incoming video stream, where less than all of the

parameters of the incoming video stream are recomputed for the new video stream,

(abstract, column 15 line 65 to column 18 line 34 and figure 5 column 18 lines 35 to 62).

Panusopone doesn't disclose that at least one B frame is consider during the spatial

reduction, and that at least one of the parameters correspond to the at least on the B

frame. Cheney discloses that at least one B frame is consider during the spatial

reduction, and that at least one of the parameters correspond to the at least on the B

frame (column 9 lines 53-67; column 11 lines 38-46 and column 13 lines 40-48).

Panusopone and Cheney are analogous art because they are from the same field of

endeavor. At the time of the invention it would have been obvious to a person of

ordinary skill in the art to integrate the use of B frames disclosed by admitted prior art

with the video transcoder disclosed by Panusopone. The suggestion/motivation for

doing so would have been to enhance the quality video stream transcoding (Cheney

column 13 lines 40-48 Christopoulos (US 20010047517 A1) paragraph [0053] the

inclusion of the B frames will increase the quality of the transcoder).

As per claim 39, Panusopone discloses a program for transcoding an incoming

video stream to reduce the bit rate of the video stream comprising decoding the

incoming video stream that includes at least one B frame, where parameters of the

incoming stream are extracted from it and used in generating a new video stream

(abstract, column 15 line 65 to column 18 line 34 and figure 5 column 18 lines 35 to 62),

spatially reducing a size of images of the incoming video stream horizontally and

vertically by a selected factor (abstract, column 15 line 65 to column 18 line 34 and

figure 5 column 18 lines 35 to 62; page 19 line 65 to page 20 line 3 for horizontal and

vertical reduction and also figure 6 where a reduction NxN to NxN/2 is disclosed, blocks

600 and 610 column 3 lines 56-65), generating a new video stream that includes

spatially reduced images using one or more of the parameters extracted from the

incoming video stream, where less than all of the parameters of the incoming video

stream are recomputed for the new video stream, (abstract, column 15 line 65 to

column 18 line 34 and figure 5 column 18 lines 35 to 62). Panusopone doesn't disclose

that at least one B frame is consider during the spatial reduction. Cheney discloses that

at least one B frame is consider during the spatial reduction (column 9 lines 53-67;

column 11 lines 38-46 and column 13 lines 40-48). Panusopone and Cheney are

analogous art because they are from the same field of endeavor. At the time of the

invention it would have been obvious to a person of ordinary skill in the art to integrate

the use of B frames disclosed by admitted prior art with the video transcoder disclosed

by Panusopone. The suggestion/motivation for doing so would have been to enhance

the quality video stream transcoding (Cheney column 13 lines 40-48 Christopoulos (US

20010047517 A1) paragraph [0053] the inclusion of the B frames will increase the

quality of the transcoder).

As per claim 2, Panusopone and Cheney disclose claim 1, Panusopone also

discloses spatially reducing images of the incoming video stream by a selected factor

further comprises re-sampling the incoming video stream after is has been decoded

(column 4, lines 44-61; column 15, line 64 to column 18, line 34).

As per claims 3, 20, 38, and 40, Panusopone and Cheney disclose claims 1, 19,

33 and 39, Panusopone also discloses scaling f-codes of the incoming video stream as

the f codes is decoded, and scaling the f codes of the incoming video stream after

decoding an entire picture of the video stream (column 18 line 35 to column 21, line

6,tables 2-6, figures 4 and 5).

As per claims 4, 22, and 41, Panusopone and Cheney disclose claims 1, 19 and

39, Panusopone also discloses determining a macroblock (MB) type for each MB of the

new video stream (column 7, lines 52-59; column 15, lines 42-63;. column 17 line 56 to

column 18 line 34; column 19 line 29 to column 20, line 64, table 5).

As per claims 5, 23, and 42, Panusopone and Cheney disclose claims 4, 22 and

41, Panusopone also discloses determining a MB type for each MB of the incoming

video stream that maps to a particular MB of the new video stream, where the MB type

of the MBS from the incoming video stream are included in the parameters of the

incoming video stream (table 5), weighting each MB type of the MBs in the incoming

video stream according to their contribution to the particular MB of the new video stream

; and taking a mean of the MB types from the incoming video stream, and rounding the

mean (column 15, lines 42-63), where the rounded mean determines the MB type for

the particular MB of the new video stream (column 7, lines 52-59; column 15, lines 42-

63; column 17, line 56 to column 18, line 34; column 19 line 29 to column 20, line 64;

table 5).

As per claims 6, 24, and 43, Panusopone and Cheney disclose claims 5, 23 and

41, Panusopone also discloses determining other flags associated with the MB type

(column 15 lines 42-63; column 17, line 56 to column 18, line 34; column 19 line 29 to

column 20 line 64; tables 2-6).

As per claims 7, 25, and 44, Panusopone and Cheney disclose claims 1, 24 and

43, Panusopone also discloses that the flags comprise a quant flag, a forward flag, a

backward flag, and a pattern flag (column 14, lines 27-37, table 4, Vop-quant, Vop-

fcode-forward, Vop-fcode-backward).

As per claim 8, Panusopone and Cheney disclose claim 1, Panusopone also

discloses selecting motion vectors for each picture that requires motion vectors (column

4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55 to column

15, line 63; column 17, line 56 to column 19, line 47; column 21 lines 28-33, table 5)

As per claims 9 and 26, Panusopone and Cheney disclose claims 1and 19,

Panusopone also discloses determining a value of the MVs from the MVs of the

incoming video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-

47; column 14 line 55 to column 15 line 63; column 17 line 56 to column 19 line 47; column 21 lines 28-33; table 5).

As per claims 10, 27, 34, 46, and 53, Panusopone and Cheney disclose claims 9, 26, 33, 45 and 52, Panusopone also discloses determining a weighted mean scale value of the MVs from MVs of the incoming video stream that map to a particular MB of the new video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56- column 19, line 47; column 21, lines 28-33; table 5).

As per claims 11, 28, 35, 47, and 54, Panusopone and Cheney disclose claims 8, 26, 33, 45 and 52, Panusopone also discloses selecting candidate MVs for a particular MB of the new video stream, where the candidate MVs comprise scaled MVs from the incoming video stream and a weighted men scaled vector; and determining a best MV from the candidate MVs, where the best MV provides a best fit to the data (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 19, line 47; column 21 , lines 28-33; table 5).

As per claim 13, Panusopone and Cheney disclose claim 8, Panusopone also discloses selecting weighted mean scaled MVs; selecting scaled Mvs of the incoming video stream', and selecting field vectors (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 16, line 20- column 20, line 64; column 21 lines 28- 33; figure 6; table 6).

As per claim 14, Panusopone and Cheney disclose claim 1, Panusopone also discloses generating a new video stream further comprises determining flags of the new

video stream from the flags of the incoming video stream (column 4, lines 27-61;

column 6, lines 1-21; column 8, lines 38-47; column 14, line 55-column 1 5, line 63,

column 17, line 56 - column 19, line 47; column 21, lines 28-33; table 5).

As per claims 15, 30, and 49, Panusopone and Cheney disclose claims 14, 19,

and 45, Panusopone also discloses determining a Discrete Cosine Transform (DCT)

type flag using a weighted mean rounded procedure (column 3, lines 56-64; column 4,

lines 43-61; column 7, lines 53-68; column 13, line 33-38; column 16, line 20 to column

17, line 55; column 19, line 47 to column 20, line 64; table 6).

As per claim 16, Panusopone and Cheney disclose claim 1, Panusopone also

discloses determining a quantizer scale of the new video stream using a quantizer scale

of the incoming video stream (column 5, lines 5-20; column 6, lines 59- 68; column 7,

lines 33-68; column 13, line 44-column 14, line 54; column 1 9, lines 41-50; figure 5;

table 3).

As per claims 17, 31, and 50, Panusopone and Cheney disclose claims 16, 19

and 49, Panusopone also discloses a weighted mean rounded procedure; a weighted

max rounded procedure; a weighted min rounded procedure; a weighted median

rounded procedure (column 5, lines 5-20; column 7, lines 33-68; column 13, line 44-

column 14, line 54; column 19, lines 41-50; figure 1; figure 5; table 3).

As per claims 18, 32, and 51, Panusopone and Cheney disclose claims 1, 19 and

39, Panusopone also discloses determining a coded block pattern (column 14, lines 27-

37).

As per claim 21, Panusopone and Cheney disclose claim 19, Panusopone also discloses determining other flags associated with the MB type (column 15, lines 42-63; column 17 line 56 to column 18,line 34; column 19 line 29 to column 20 line 64; tables 2-6). The flags comprise a quant flag, a forward flag, a backward flag, and a pattern flag (column 14, lines 27-37, table 4, Vop-quant, Vop-fcode-forward, Vop-fcode-backward).

As per claims 33, 45, and 52, Panusopone and Cheney disclose a system and program for transcoding an incoming video stream to reduce the bit rate of the video stream, comprising: decoding the incoming video stream, where parameters of the incoming stream are extracted from it and used in generating a new video stream (column 6, line 23 - column 7, line 31; tables 2-6; figures 4-5), spatially reducing images of the incoming stream by a selected factor (column 4 lines 44-61; column 15 line 64 to column 16, line 19; column 18 line 35 to column 19, line 7), generating new MVs for each MB of the new video stream that requires MVs using MVs from the incoming video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55 to column 15, line 63; column 17, line 56 to column 19, line 47; column 21 lines 28-33; table 5), determining MB type for each MB of the new video stream, where the MB type is a weighted mean rounded value determined from the MBs of the incoming video stream that map to a particular MB of the new video stream (column 7, lines 52-59; column 1 5, lines 42-63; column 17, line 56 to column 18, line 34, column 19, line 29 to column 20, line 64; table 5), generating a new video stream, using the new MV, new MB types, the stream parameters, that includes spatially reduced images using one or more of the parameters extracted (column 18, line 35 to column 21 line 6), where less

than all of the parameters of the incoming video stream are recomputed for the new

video stream (column 4, lines 29-61; tables 2-6).

As per claims 37 and 56, Panusopone and Cheney disclose claims 33 and 52,

Panusopone also discloses that determining flags of the new video stream from flags of

the incoming video stream further comprises determining a Discrete Cosine Transform

(DCT) type flag using a weighted mean rounded procedure (column 3, lines 56-64;

column 4, lines 43-61; column 7, lines 53-68; column 13, line 33-38; column 16, line 20

to column 17, line 55; column 19, line 47 to column 20, line 64; table 6).

As per claim 57, Panusopone and Cheney disclose claim 52, Panusopone also

discloses scaling f_codes of the incoming video stream as the f_codes is decoded, and

scaling the f_codes of the incoming video stream after decoding an entire picture of the

video stream (column 18 line 35 to column 21 line 6; tables 2-6; figure 5).

As per claim 59, Panusopone and Cheney disclose claim 58, Panusopone also

discloses f-codes (column 18 line 35-column 21, line 6; tables 2-6); MVs (column 4,

lines 27-61; column 6, lines 1 –21; column 8, lines 38-47; table 5); MB type (column 7,

lines 52-59); motion type (column 4, lines 27-61; column 6, lines 1 –21; column 8, lines

38-47; table 5); motion vertical field select (table 5); forward prediction type (column 4,

lines 27-61; column 6, lines 1-21; column 8, lines 38-47; table 5); backward prediction

type (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; table 5); DCT

type (column 7, lines 53-68); quantizer scale (column 7, lines 33-68); coded block

pattern (column 14, lines 27-37); and DCT coefficients (column 7, lines 53-68).

As per claim 60, Panusopone and Cheney disclose claim 1, Cheney also discloses making available one or more reference images for the at least one B frame (column 11 lines 31-37). Panusopone and Cheney are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the use of B frames disclosed by admitted prior art with the video transcoder disclosed by Panusopone. The suggestion/motivation for doing so would have been to enhance the quality video stream transcoding (Cheney column 13 lines 40-48 Christopoulos (US 20010047517 A1) paragraph [0053] the inclusion of the B frames will increase the quality of the transcoder).

As per claim 61, Panusopone and Cheney disclose claim 1, Panusopone also discloses that the selected factor reduces a width of the images to be a factor of sixteen, and reduces a height of the images to a factor of thirty-two (column 18 lines 51-53, the height and with of the images at the output video stream are multiples of 32 and 16 respectively, 352x240=(32x11)x(16x15)).

Claims 12, 29, 36, 48, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panusopone and Cheney as applied to claims 8, 26, 35, 45 and 54 above, and further in view of Wee et al. (Secure Scalable Streaming Enabling Transcoding Without Decryption, IEEE International Conference on Image Processing, October 2001). Panusopone and Cheney disclose claims 8, 26, 35, 45 and 54, Panusopone and Cheney don't disclose performing fine grain motion estimation for the MVs. Wee teaches fine-grain motion estimation for MVs (Wee, 4.3). Panusopone,

Cheney and Wee are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the fine-grain estimation disclosed by admitted prior art with the video transcoder disclosed by Panusopone and Cheney. The suggestion/motivation for doing so would have been to enhance the quality video stream transcoding (Wee 4.3).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takahashi (US 6005623 A) discloses an image conversion apparatus for converting the spatial resolution, temporal resolution or image quality of compressed image data to obtain compressed image data of a different spatial resolution, temporal resolution or image quality used for transmission or database storage of compressed images using B frames.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Juan Alberto Torres
01-13-2006

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PRIMARY EXAMINER